

Running head: CONSTRUAL & SELF-AFFIRMATION

Examining mechanisms of self-affirmation: The role of changeability and diagnosticity

Research Thesis

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Abstract

While diagnostic negative feedback may be threatening, self-affirmation theory suggests that individuals may accept this feedback when reminded of core values because they are able to maintain feelings of worth. One potential mechanism of self-affirmation is high-level construal—thinking about events in terms of their core aspects. High-level construal reduces defensiveness when negative feedback is relevant, changeable, and diagnostic (Belding et al., In Press). We predict that if high-level construal drives self-affirmation, changeability and diagnosticity also moderate self-affirmation's effectiveness. We used a 2 (self-affirmation: affirmed or control) x 2 (changeability: high or low) x 2 (diagnosticity: high or low) between subjects experiment to examine whether self-affirmation increases search for information on weaknesses (indicating receptiveness) over strengths (indicating defensiveness). Although the results failed to support our hypothesis, directions and implication for future research are discussed.

Keywords: self-affirmation, construal level theory, information search, negative feedback

Diagnostic negative feedback – information that highlights weaknesses and deficiencies – presents a motivational dilemma. On the one hand, such information is useful in that it identifies areas for growth and may facilitate efforts to improve over time (e.g., Dweck & Leggett, 1988; Sedikides & Hepper, 2009; Taylor, Neter, & Wayment, 1995; Trope & Neter, 1994). On the other hand, this information is emotionally painful. As a result, research suggests that when presented with negative feedback, people often respond defensively (e.g., by choosing to ignore it or decide that it is unimportant; Ditto & Lopez, 1992; Ditto, Scepansky, Munro, Apanovich, & Lockhart, 1998; Higgins, 1987; Trope & Neter, 1994). For example, Liberman and Chaiken (1992) showed that when presented with information about the health risks of caffeine, coffee drinkers were defensive in that they were less likely to accept this information than non-coffee drinkers. Although coffee drinkers could pursue long-term self-improvement and gain more from awareness of the health risks of caffeine, they were more willing to defensively believe information suggesting that the link did not exist. Consequently, they were less likely to improve their health by reducing their consumption.

Given the costs of ignoring diagnostic feedback, psychological research has sought to uncover what factors decrease this defensiveness and instead lead people to focus on long-term improvement or growth concerns (Sedikides & Hepper, 2009; Trope, 1986; Trope & Neter, 1994). One strategy for increasing receptiveness to negative feedback is self-affirmation. Self-affirmation theory contends that individuals want to maintain feelings of self-integrity, and are motivated to protect their self-integrity when presented with a threat (for a review, see Sherman & Cohen, 2006; Steele, 1988). Individuals are self-affirmed when they are reminded of their core values and characteristics, which allows them to maintain their feelings of self-worth even in the face of potential threats (e.g., Cohen, Aronson, & Steele, 2000; Sherman, Nelson, & Steele,

2000). For example, if a person who values athletics wrote an essay about why athletics is important to him/her, he/she would have engaged in the process of self-affirmation (McQueen & Klein, 2006).

Among other things, self-affirmation effectively reduces individuals' defensiveness to negative feedback (Aronson, Cohen, & Nail, 1999; Epton & Harris, 2008; Harris & Napper, 2005; Klein & Harris, 2009; Sherman et al., 2000). Health-risk information, one common type of negative feedback, is threatening because it reminds recipients of potential of negative outcomes. Accordingly, recent meta-analyses have examined self-affirmation's effect in changing intentions and behavior following exposure to health-risk information (Epton, Harris, Kane, van Koningsbruggen, & Sheeran, 2014; Sweeney & Moyer, 2014). These meta-analyses found that self-affirmation had a small but significant effect on health message acceptance, intentions to change, and behavior across many different types of health messages. In one study, Sherman and colleagues (2000) examined self-affirmation's effect on female coffee drinkers confronted with information suggesting a link between coffee consumption and fibrocystic disease. Because the coffee drinkers faced negative information about their habit, they may have felt threatened and refused to accept that they should change. Indeed, replicating past work (Lieberman & Chaiken, 1992), female coffee drinkers in the control condition responded defensively by choosing to ignore the threatening information provided. However, self-affirmation effectively attenuated this threat and made coffee drinkers more willing to acknowledge that they were participating in unhealthy behaviors (Sherman, et al, 2000).

Potential Mechanisms of Self-Affirmation

Although self-affirmation has been shown to reduce defensiveness, the mechanism by which it does so is unclear (e.g., Sherman & Cohen, 2006). Some preliminary research suggested

that self-affirmation increased one's self-esteem (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999, Study 3). Additional empirical tests of this particular mechanism, however, have been mixed (e.g., Crocker, Niiya, & Mischowski, 2008; Sherman & Cohen, 2006). Other research suggests that positive other-directed feelings may play a role. For example, Crocker and colleagues (2008) showed that affirmed participants reported greater feelings of love and connection, which appear to account for individuals' reduced defensiveness to a message containing negative feedback.

Construal Level Theory and Defensiveness

In the present work, we focus on another potential mechanism by which self-affirmation may reduce defensiveness: namely, construal level. Construal Level Theory posits that individuals can represent (or construe) the world at varying levels of abstraction (see Trope & Liberman, 2010, for a review). Individuals tend to construe events at higher levels of abstraction as the events become more psychologically distant (i.e., removed in time, physical distance, social distance, or hypotheticality). As events become more removed from the observer's here-and-now, people typically engage in high-level construal because they are forced to think about events in terms of their core, central characteristics. When events are psychologically near, people may engage in low-level construal because they have information regarding specific details and idiosyncratic qualities. For example, if a person engaging in high-level construal thinks about completing a personality test, that person may think of this behavior as revealing information about what he/she is like. Conversely, when engaging in low-level construal, that person may think about this behavior as simply answering questions.

Notably, high-level construal enhances consideration of long-term concerns over short-term concerns when people have conflicting motives (e.g., Fujita, Trope, Liberman, & Levin-

Sagi, 2006). That is, research suggests that people behave in line with their long-term goals (vs. short-term temptations) when engaged in high-level versus low-level construal (Fujita, 2008; Fujita & Carnevale, 2012). When people are exposed to negative feedback, short-term self-protection motives compete with long-term self-change motives. Thus, high-level construal, by helping one weight their long-term goals over short-term temptations, should lead one to be more accepting of the information (e.g., Freitas, Salovey, & Liberman, 2001). Indeed, research supports this prediction. For example, Freitas and colleagues (2001) found that individuals prompted to engage in high-level (vs. low-level) construal were more receptive to negative feedback because they were more willing to learn about their weaknesses in “social intelligence.”

Recent work by Belding, Naufel, and Fujita (In Press) extended previous research by examining high-level construal’s effect beyond information search and avoidance to information acceptance and rejection. Additionally, they examined moderators of high-level construal’s effect. They predicted that high-level construal should only reduce defensiveness to negative feedback to the extent that the information is changeable and relevant. To examine this hypothesis, they randomly assigned high and low relevance groups to engage in high or low-level construal and to receive feedback about health behavior that was either malleable or fixed. When the information was presented as unchangeable, individuals in the relevant group engaging in both high and low-level construal were defensive to the negative feedback. However, individuals for whom the information was relevant were less defensive when the information was changeable when using high-level construal relative to low-level construal. One explanation for these results is that engaging in high-level construal helped the high relevance group to realize the long-term value in responding receptively to threatening but useful information. In

addition, the low relevance group may not have been motivated to change their behavior because the information did not concern them.

Self-Affirmation and Construal Level

Importantly, research suggests a link between self-affirmation and construal level (Schmeichel & Vohs, 2009; Sherman et al., 2013; Wakslak & Trope, 2009). Specifically, self-affirmation may promote a shift toward construing information in higher-level terms. For example, research demonstrates that self-affirmation promotes identifying behaviors in terms of their end states rather than their means (Schmeichel & Vohs, 2009; Sherman et al., 2013; Wakslak & Trope, 2009), as measured with the Behavioral Identification Form (Vallacher & Wegner, 1987). Furthermore, some evidence suggests that self-affirmation allows participants to assess their self-concept in a more coherent and structured way, and increases focus on goal-relevant aspects of stimuli (Wakslak & Trope, 2009). Together, these findings support the idea that self-affirmation promotes high-level construal, and that construal level may be the mechanism by which self-affirmation reduces defensiveness to negative feedback.

Present Research

The present research attempts to extend previous work linking construal level to self-affirmation. Consistent with previous research, we predict that self-affirmation will reduce defensiveness to negative feedback. We further propose that self-affirmation helps people resolve their conflict between short-term self-protection and long-term self-change motives by inducing high-level construal. To the extent that some variables moderate the impact of construal levels on defensiveness and that construal levels are related to self-affirmation, we might expect those same variables to moderate the impact of self-affirmation on defensiveness. If construal level processes are involved, moderators of construal level's effectiveness (i.e., changeability,

diagnosticity) should also moderate the effects of self-affirmation. We expect that when information is changeable and diagnostic, high-level construal is effective in reducing defensiveness. Thus, changeability and diagnosticity should represent boundary conditions for self-affirmation, such that negative feedback should be changeable and diagnostic for self-affirmation to reduce defensiveness.

Some preliminary research began to examine the role of changeability in self-affirmation's effectiveness. Howell and Shepperd (2012, Study 3) examined the effect of self-affirmation at different levels of changeability. They presented participants with the opportunity to seek information about their risk for a disease that was either treatable or untreatable. When the disease was untreatable, those in the control group responded more defensively than when the disease was treatable. In line with their predictions, self-affirmation reduced defensiveness, as evidenced by an increased likelihood to seek information regarding their risk in general, even when the disease was untreatable. Although this may suggest that changeability does not moderate the impact of self-affirmation, it constitutes only one study with a null finding. Given the difficulties of interpreting a single null result, it is important to test this somewhat surprising result using different methodology.

Beyond changeability, when individuals engage in high-level construal, they should only seek negative feedback to the extent that it is diagnostic. Diagnostic information has high informational value that can help individuals reduce uncertainty and improve (Morrison & Cummings, 1992). If information is not diagnostic, high-level construal should be less likely to motivate individuals to make a change because the information does not provide an accurate way to improve, thereby resolving the dual motive conflict. As additional support for the idea that diagnosticity may play an important role in increasing receptiveness to negative information,

previous research demonstrated that individuals tend to prefer diagnostic information to non-diagnostic information when they are motivated to attain a goal (Trope 1986; Trope & Bassok 1983; Trope & Brickman, 1975). For example, in one study, participants preferred to use items high in diagnosticity to assess their ability when given the chance to select items from tests measuring “integrative orientation.”

When faced with a dual-motive conflict between self-change and self-protection concerns, diagnostic feedback should provide useful information that individuals can use to improve. High-level construal should enhance sensitivity to the diagnosticity of negative feedback because it shifts individuals’ focus to their self-change goals. Examining these moderators together, high-level construal should help individuals weight their long-term self-change motives over their short-term self-protection motives to the extent that negative feedback is relevant, changeable, and diagnostic.

In order to examine whether high-level construal may be involved in self-affirmation, we manipulated self-affirmation, changeability, and diagnosticity in the present research. To the extent that construal level mediates the relationship between self-affirmation and reduced defensiveness, self-affirmation should help people weigh their self-change motives over their self-protection motives when the feedback is useful and change is possible. We expect that the self-affirmed group will seek out information about weaknesses when the information is presented as high in changeability and diagnosticity, and will avoid information about weaknesses when the information is either presented as low in changeability, diagnosticity, or both. In addition, we predict that the non-affirmed groups will avoid negative feedback regardless of how the information is presented.

Method

Participants

Two hundred and forty-two introductory psychology students (122 female, 102 male, 18 unreported) at The Ohio State University were randomly assigned to the cells of a 2 (self-affirmation: affirmed vs. control) X 2 (changeability: high vs. low) X 2 (diagnosticity: high vs. low) between participants experiment and received partial course credit for participating during the fall semester. Participants believed they would take a short survey and complete a personality test. The participants' ages ranged from 18 to 32 ($M = 18.81$, $SD = 1.56$). We excluded 5 participants for failure to follow instructions (Oppenheimer, Meyvis, & Davidenko, 2009).¹

Procedure

Participants completed all materials on computers running MediaLab (Jarvis, 2006). After providing informed consent, participants read that they would be taking a test that measured four components of emotional intelligence. We then asked participants to indicate their level of agreement with statements that appeared to relate to emotional intelligence, such as "I feel comfortable around people" and "I sympathize with others' feelings" (1 = Strongly Disagree, 7 = Strongly Agree). In the next section of the test, participants read vignettes about several situations people may encounter and reported their expectations for the target's behavior. For example, participants read, "Andrew walks into class a few minutes late to discover that all the chairs in the classroom are full. How do you think Andrew will solve this problem?" Participants then reported whether Andrew likely decided to leave the class and go home, walked to the hallway to find a new chair, or asked a fellow student to move his backpack out of a chair

¹ Approximately halfway through the experiment, participants read, "If you are reading this question, please select answer '3'." Participants who did not answer "3" were excluded from analyses for failure to follow instructions.

(See Appendix A). We designed each vignette to be ambiguous and each response to be plausible, so that participants did not know how well they scored.

After participants completed the test, we randomly assigned them to either a self-affirmation or control condition as a supposedly unrelated study (McQueen & Klein, 2006). All participants ranked a list of values (artistic skills, sense of humor, relations with friends and family, spontaneity/living life in the moment, musical ability/appreciation, physical attractiveness, athletics, creativity, business/managerial skills, academics, and romantic values) from most to least important. We instructed those in the affirmation condition to write an essay about why their highest ranked value was important to them, whereas those in the control condition wrote about why their lowest ranked value may be important to someone else (see Appendix B).

Participants then read a description of the emotional intelligence test that contained the changeability and diagnosticity manipulations (see Appendix C). All participants first read that emotional intelligence plays a major role in everyday life before reading the changeability manipulation. Participants in the low changeability condition read that individuals are largely unable to alter their emotional intelligence. This information stated that “Much research has shown that despite learning and experience in dealing with others, people are largely unable to alter the patterns of interacting with others that they learned at a very early age: their abilities tend to be fixed over time.” Alternatively, those in the high changeability condition read that their emotional intelligence was malleable. This information stated that “Much research has shown that starting at a young age and continuing through time, people can change their pattern of dealing with a variety of emotional interactions through learning and experience.”

Next, participants read information that contained the diagnosticity manipulation. In the high diagnosticity condition, participants read that award-winning Stanford University researchers conducted the research on the emotional intelligence inventory they had completed. In the low diagnosticity condition, participants learned that the test was the result of preliminary hypotheses by researchers from a high school. By altering the supposed source of the information, we presented the inventory as either providing highly diagnostic or relatively less diagnostic information. If participants believe that the test came from accredited researchers, they should consider the information to be more accurate and diagnostic than those who believe that the test came from high school students.

After receiving information about the changeability and diagnosticity of the test, participants then learned that they had earned high scores in some domains but poor scores in the others domains. We provided this information to allow participants the opportunity to seek feedback information. They learned that they had the option to receive information about their performance on the emotional intelligence test, but that they could only choose to read either the strengths or the weaknesses feedback due to time constraints. As the dependent variable, participants indicated their choice between the two types of feedback. Additionally, participants completed several measures that assessed how much they wanted information in general (how much participants wanted just the strengths, just the weaknesses, neither, or both; 1 = Not at all, 7 = Very much). Participants were offered the opportunity to seek negative feedback as a measure of defensiveness, but we did not give them that information for ethical reasons. Instead, they were asked to complete several additional measures before they would receive the information.

Following the choice of feedback, participants completed several items designed as manipulation checks. As a manipulation check of changeability, participants reported how changeable they perceived the feedback to be by answering “How changeable do you think your emotional intelligence is? (1 = Not at all changeable, 7 = Very changeable)” As manipulation checks of diagnosticity, participants reported how credible they thought the emotional intelligence inventory was and how valid they expected the report to be. Specifically, participants answered the items “How credible do you think the Barchard Emotional Intelligence Inventory is? (1 = Not at all credible, 7 = Very credible)” and “How valid do you believe the report you will soon receive of your performance will be? (1 = Not at all valid, 7 = Very valid)” These items should assess diagnosticity because if participants see the potential feedback as more credible and valid, they should believe that it could provide them with useful information about their abilities. Finally, participants were debriefed and thanked.

Results

Self-Affirmation Manipulation Check

In order to verify that participants correctly completed the self-affirmation manipulation, we examined participants' values ranking and the short paragraphs they wrote. Consistent with the work by Crocker and colleagues (2008), the most popular highest ranked value was relationship with friends and family whereas the most popular lowest ranked value was artistic skills/abilities. We next coded whether those in the affirmation condition wrote about why their highest ranked value was important to them while those in the control condition wrote about why their lowest ranked value was important to someone else. The vast majority of participants followed instructions (affirmation = 99%, control = 84%). Most participants in the control

condition who did not follow directions wrote about why their lowest ranked value was unimportant to them rather than why it was important to someone else.

Changeability Manipulation Check

After examining the affirmation manipulation, we examined our changeability and diagnosticity manipulation checks using a 2 (affirmation: affirmed vs. control) x 2 (changeability: high vs. low) x 2 (diagnosticity: high vs. low) between subjects ANOVA. Confirming the effectiveness of our changeability manipulation, participants in the high changeability condition ($M = 4.93$, $SD = 1.13$) saw their emotional intelligence as more malleable than those in the low changeability condition ($M = 4.39$, $SD = 1.39$), $F(1, 218) = 10.47$, $p = .001$, $d = 0.44$. No other effects were significant (all $ps > .27$).

Diagnosticity Manipulation Check

Next, as a diagnosticity manipulation check, we assessed the perceived credibility of the test using the same analysis as above. The means for the high diagnosticity condition ($M = 4.55$, $SD = 1.15$) and low diagnosticity condition ($M = 4.48$, $SD = .98$) were directionally consistent, but the diagnosticity manipulation did not significantly impact perceived credibility of the emotional intelligence test, $F(1, 218) = 1.34$, $p = 0.32$, $d = 0.15$. No other effects were significant (all $ps > .13$).²

As a second diagnosticity manipulation check, we assessed the perceived validity of the report. Consistent with our predictions, participants in the high diagnosticity condition ($M = 4.52$, $SD = 1.27$) saw the upcoming report as more valid than those in the low diagnosticity

² The interaction of affirmation and diagnosticity was the effect closest to significance, $F(1, 222) = 2.30$, $p = 0.13$, $d = .20$. The diagnosticity manipulation appeared to work for participants in the control condition, but not for those in the affirmation condition. Specifically, participants in the control condition perceived the high diagnosticity message ($M = 4.66$, $SD = 1.32$) as more credible than those in the low diagnosticity condition ($M = 4.25$, $SD = .98$), $F(1, 108) = 3.28$, $p = 0.07$, $d = .35$. Participants in the affirmation condition, however, did not perceive the high diagnosticity message ($M = 4.60$, $SD = 1.29$) as more credible than those in the low diagnosticity condition ($M = 4.66$, $SD = .95$), $F(1, 115) = 0.07$, $p = 0.79$, $d = .06$.

condition ($M = 4.37$, $SD = 1.28$), $F(1, 218) = 3.94$, $p = .05$, $d = .27$. Unexpectedly, participants in the self-affirmation condition ($M = 4.65$, $SD = 1.16$) also saw the potential report as more valid than those in the control condition ($M = 4.37$, $SD = 1.37$), $F(1, 218) = 3.76$, $p = .05$, $d = .26$. One potential explanation for this effect is that control participants responded defensively by downplaying the validity of the report but self-affirmation attenuated this defensiveness. No other effects were significant (all $ps > .30$).

Choice of Feedback Information

Confident that we had adequately checked our manipulations, we then examined participants' choice between feedback on their weaknesses or strengths. Overall, 41% of the sample chose to receive information on their weaknesses. In order to examine whether self-affirmation increased receptiveness to negative feedback when information was changeable and diagnostic, we regressed preferences for weaknesses over strengths on our three effects coded independent variables and their interactions using logistic regression. Neither the 3-way interaction of affirmation, changeability, and diagnosticity, $B = .13$, $Z(235) = .98$, $p = .33$ (see Figure 1), nor any of the lower order effects, were significant (all $ps > .12$; see Figure 1).³

Additionally, we examined the continuous measures of information search. These measures assessed how much participants wanted information on just their strengths, just their weaknesses, neither type of information, and both. Contrary to our hypotheses, the three-way interaction of self-affirmation, changeability, and diagnosticity did not significantly influence preferences for information on strengths, $F(1, 227) = 1.25$, $p = .27$, $d = .14$, weaknesses, $F(1,$

³ The interaction of changeability and diagnosticity was the effect closest to significance, $B = -.20$, $Z(235) = -1.51$, $p = .13$. When participants read the high changeability message, high diagnosticity promoted defensiveness (preferences for strengths over weaknesses) relative to low diagnosticity, $B = -.39$, $Z(235) = -2.03$, $p = .04$. However, this effect did not occur when participants read the low changeability message, $B = .02$, $Z(235) = .09$, $p = .93$. This trend may suggest that information was the least threatening when information was both changeable and non-diagnostic. All other effects were not significant, $ps > .20$.

227) = 0.64, $p = 0.43$, $d = .11$, neither type of information, $F(1, 226) = .30$, $p = .59$, $d = .06$, or both types of information, $F(1, 226) = 0.68$, $p = .41$, $d = .11$. No significant effects emerged on any of these measures (all $ps > .08$).⁴

Discussion

We predicted that self-affirmed participants would respond less defensively to negative feedback when the feedback was presented as highly changeable and diagnostic. While our changeability manipulation was effective, the diagnosticity manipulation impacted perceived validity but not credibility of the upcoming report. The data failed to support our predictions because the self-affirmed, high changeability, and high diagnosticity group did not display the expected reduced defensiveness (i.e., preference for weaknesses over strengths). However, certain aspects of the experiment, such as the effectiveness of the manipulations, the extent to which participants were driven by self-protection and self-change motives, and other potential mechanisms may have led to this failure to demonstrate reduced defensiveness.

A dual-motive conflict assumes that participants feel threatened by the negative feedback. One possible reason for our failure to demonstrate the predicted results may be due to the failure of the diagnosticity manipulation. Participants may not have trusted the information provided about the test, and information must be at least somewhat credible to affect either side of the dual-motive conflict. The means for both groups were near the midpoint of the scale, possibly suggesting that participants were not convinced that the feedback would be accurate enough to

⁴ The interaction of changeability and diagnosticity on participants' desire for strengths information was the effect closest to significance, $F(1, 178) = 3.02$, $p = 0.08$, $d = .23$. When participants read the low diagnosticity message, low changeability marginally promoted defensiveness (preferences for strengths over weaknesses) relative to high changeability, $F(1, 109) = 2.53$, $p = 0.11$, $d = .30$. However, this effect did not occur when participants read the high diagnosticity message, $F(1, 122) = 0.77$, $p = 0.38$, $d = .16$. We have no theoretical reason to predict this effect, and the lack of a self-affirmation effect suggests that this result may not be meaningful. All other effects were not significant, $ps > .10$.

adequately help them improve. In turn, this perceived lack of credibility might have reduced the self-protection motive because the information was less threatening. In the future, we may focus on a domain in which we can provide actual, real-world information of varying diagnosticity to participants. For example, providing individuals with information about risk for a disease from a medical doctor may appear credible enough to actually make participants feel threatened.

If participants did not feel adequately threatened in the current study, it may have been difficult to see an effect of self-affirmation. Participants may not have felt threatened because they only had the option to seek out negative information and did not actually receive negative feedback. That is, it is possible that the opportunity to seek negative information may not have been as strong of a threat as actually receiving and having to cope with negative feedback. In the future, we could test our hypothesis by providing participants with negative feedback and then assessing whether they would seek out additional weakness information, following the design of studies by Belding and colleagues (In Press). This paradigm may allow for a more thorough test of the dual-motive framework, because individuals' motives should conflict more when they can no longer avoid the information.

In addition to factors that may have affected participants' self-protection motives, some aspects of the study may have reduced participants' perception that they could pursue their self-change motive. Specifically, because we did not provide any information as to how participants could improve their emotional intelligence, participants may have felt that learning about their weaknesses would not help them to actually improve. The changeability manipulation may have conveyed that change was possible without also conveying a sense of self-efficacy that participants could engage in that change themselves.

Although we were unable to show support for our hypotheses in the current study, this work may prompt a variety of future directions. For example, the mechanism by which self-affirmation promotes high-level construal remains an open question. One possibility is that self-affirmation promotes high-level construal by prompting self-transcendence. When self-affirmation induces feelings of love and connectedness (Crocker, Niiya, Mischkowski, 2008), it may induce social distance by prompting people to think about others. This increased social distance may then promote abstraction, which may ultimately ameliorate the threat of negative feedback. Future research may examine the connection between construal level and self-transcendence in order to understand the relationship between self-affirmation and reduced defensiveness.

Conclusion

The current study aimed to apply a dual-motive framework to self-affirmation. In the past, most self-affirmation research has focused on documenting its ability to reduce defensiveness. By framing self-affirmation's effect in terms of shifting the weight of individuals' self-protection and self-change motives, we may learn more as to why self-affirmation is effective. Furthermore, identifying boundary conditions of self-affirmation's effectiveness is important for more accurate predictions of when it will reduce defensiveness. For example, if self-affirmation is indeed affected by changeability, emphasizing the changeability of the feedback domain may enhance one's effort to pursue self-change goals. Emphasizing changeability may be especially important in the health domain, because many health dilemmas contain both changeable and unchangeable information. Despite this study's null finding, continuing to explore the process of self-affirmation will lead to better applications in many different contexts.

References

- Aronson, J., Cohen, G., & Nail, P. R. (1999). Self-affirmation theory: An update and appraisal. *Cognitive Dissonance: Progress on a Pivotal Theory in Social Psychology*, 127-147.
- Belding, J.N., Naufel, K.Z., & Fujita, K. (In Press). Using high-level construal and perceptions of changeability to promote self-change over self-protection motives in response to negative feedback. *Personality and Social Psychology Bulletin*.
- Cohen, G. L., Aronson, J., & Steele, C. M. (2000). When beliefs yield to evidence: Reducing biased evaluation by affirming the self. *Personality and Social Psychology Bulletin*, 26(9), 1151-1164. Doi: 10.1177/01461672002611011
- Crocker, J., Niiya, Y., & Mischkowski, D. (2008). Why does writing about important values reduce defensiveness? Self-affirmation and the role of positive other-directed feelings. *Psychological Science*, 19(7), 740-747. Doi: 10.1111/j.1467-9280.2008.02150.x
- Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology*, 63(4), 568-584. Doi: <http://dx.doi.org/10.1037/0022-3514.63.4.568>
- Ditto, P. H., Scepansky, J. A., Munro, G. D., Apanovitch, A. M., & Lockhart, L. K. (1998). Motivated sensitivity to preference-inconsistent information. *Journal of Personality and Social Psychology*, 75(1), 53-69. Doi: <http://dx.doi.org/10.1037/0022-3514.75.1.53>
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273. Doi: <http://dx.doi.org/10.1037/0033-295X.95.2.256>
- Epton, T., & Harris, P. R. (2008). Self-affirmation promotes health behavior change. *Health Psychology*, 27(6), 746-752. Doi: <http://dx.doi.org/10.1037/0278-6133.27.6.746>

- Epton, T., Harris, P. R., Kane, R., van Koningsbruggen, G. M., & Sheeran, P. (2014). The Impact of Self-Affirmation on Health-Behavior Change: A Meta-Analysis. Advance online publication. Doi: <http://dx.doi.org/10.1037/hea0000116>
- Freitas, A. L., Salovey, P., & Liberman, N. (2001). Abstract and concrete self-evaluative goals. *Journal of Personality and Social Psychology*, 80(3), 410-424. Doi: 10.1037/0022-3514.80.3.410
- Fujita, K., & Carnevale, J. J. (2012). Transcending Temptation Through Abstraction The Role of Construal Level in Self-Control. *Current Directions in Psychological Science*, 21(4), 248-252. Doi: 10.1177/0963721412449169
- Fujita, K (2008). Seeing the forest beyond the trees: A construal-level approach to self-control. *Social and Personality Psychology Compass*, 2(3), 1475-1496. Doi: 10.1111/j.1751-9004.2008.00118.x
- Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, 90(3), 351-367. Doi: 10.1037/0022-3514.90.3.351
- Harris, P. R., & Napper, L. (2005). Self-affirmation and the biased processing of threatening health-risk information. *Personality and Social Psychology Bulletin*, 31(9), 1250-1263. Doi: 10.1177/0146167205274694
- Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological review*, 94(3), 319-340. Doi: <http://dx.doi.org/10.1037/0033-295X.94.3.319>
- Howell, J. L., & Shepperd, J. A. (2012). Reducing information avoidance through affirmation. *Psychological science*, 23(2), 141-145. Doi: 10.1177/0956797611424164

- Jarvis, B. G. (2006). MediaLab (Version 2004.2.40) [Computer Software]. New York, NY: Empirisoft Corporation.
- Klein, W. M., & Harris, P. R. (2009). Self-affirmation enhances attentional bias toward threatening components of a persuasive message. *Psychological Science*, 20(12), 1463-1467. Doi: 10.1111/j.1467-9280.2009.02467.x
- Koole, S. L., Smeets, K., van Knippenberg, A., & Dijksterhuis, A. (1999). The cessation of rumination through self-affirmation. *Journal of Personality and Social Psychology*, 77(1), 111-125. Doi: 10.1037/0022-3514.77.1.111
- Liberman, N., & Chaiken, S. (1992). Defensive processing of personally relevant health messages. *Personality and Social Psychology Bulletin*, 18(6), 669-679. Doi: 10.1177/0146167292186002
- McQueen, A., & Klein, W. M. (2006). Experimental manipulations of self-affirmation: A systematic review. *Self and Identity*, 5(4), 289-354. Doi: 10.1080/15298860600805325
- Morrison, E. W., & Cummings, L. L. (1992). The impact of feedback diagnosticity and performance expectations on feedback seeking behavior. *Human Performance*, 5(4), 251-264. Doi: 10.1207/s15327043hup0504_1
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45(4), 867-872. Doi: 10.1016/j.jesp.2009.03.009
- Schmeichel, B. J., & Vohs, K. (2009). Self-affirmation and self-control: affirming core values counteracts ego depletion. *Journal of Personality and Social Psychology*, 96(4), 770-782. Doi: <http://dx.doi.org/10.1037/a0014635>

- Sedikides, C., & Hepper, E. G. (2009). Self-improvement. *Social and Personality Psychology Compass*, 3(6), 899-917. Doi: 10.1111/j.1751-9004.2009.00231.x
- Sherman, D. K., & Cohen, G. L. (2006). The psychology of self-defense: Self-affirmation theory. *Advances in Experimental Social Psychology*, 38, 183-242. Doi: 10.1016/S0065-2601(06)38004-5
- Sherman, D. K., Hartson, K. A., Binning, K. R., Purdie-Vaughns, V., Garcia, J., Taborsky-Barba, S., ... & Cohen, G. L. (2013). Deflecting the trajectory and changing the narrative: How self-affirmation affects academic performance and motivation under identity threat. *Journal of Personality and Social Psychology*, 591-618. Doi: <http://dx.doi.org/10.1037/a0031495>
- Sherman, D. A. K., Nelson, L. D., & Steele, C. M. (2000). Do messages about health risks threaten the self? Increasing the acceptance of threatening health messages via self-affirmation. *Personality and Social Psychology Bulletin*, 26(9), 1046-1058. Doi: 10.1177/01461672002611003
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. *Advances in Experimental Social Psychology*, 21(2), 261-302. Doi: 10.1016/S0065-2601(08)60229-4
- Sweeney, A. M., & Moyer, A. (2014). Self-Affirmation and Responses to Health Messages: A Meta-Analysis on Intentions and Behavior. Advance online publication. Doi: <http://dx.doi.org/10.1037/hea0000110>
- Taylor, S. E., Neter, E., & Wayment, H. A. (1995). Self-evaluation processes. *Personality and Social Psychology Bulletin*, 21(12), 1278-1287. Doi: 10.1177/01461672952112005

- Trope, Y. (1975). Seeking information about one's ability as a determinant of choice among tasks. *Journal of Personality and Social Psychology*, 32(6), 1004-1013. Doi: <http://dx.doi.org/10.1037/0022-3514.32.6.1004>
- Trope, Y. (1986). Self-enhancement and self-assessment in achievement behavior. *Handbook of Motivation and Cognition: Foundations of Social Behavior*, 1, 350-378.
- Trope, Y., & Bassok, M. (1983). Information-gathering strategies in hypothesis-testing. *Journal of Experimental Social Psychology*, 19(6), 560-576. Doi: 10.1016/0022-1031(83)90016-1
- Trope, Y., & Brickman, P. (1975). Difficulty and diagnosticity as determinants of choice among tasks. *Journal of Personality and Social Psychology*, 31(5), 918-925. Doi: <http://dx.doi.org/10.1037/h0076792>
- Trope, Y., & Liberman, N. (2010). Construal level theory of psychological distance. *Psychological Review*, 117(2), 440-463. Doi: 10.1037/a0018963
- Trope, Y., & Neter, E. (1994). Reconciling competing motives in self-evaluation: the role of self-control in feedback seeking. *Journal of Personality and Social Psychology*, 66(4), 646-657. Doi: <http://dx.doi.org/10.1037/0022-3514.66.4.646>
- Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review*, 94(1), 3-15. Doi: <http://dx.doi.org/10.1037/0033-295X.94.1.3>
- Wakslak, C. J., & Trope, Y. (2009). Cognitive consequences of affirming the self: The relationship between self-affirmation and object construal. *Journal of Experimental Social Psychology*, 45(4), 927-932. Doi: 10.1016/j.jesp.2009.05.002

Appendix A: Emotional Intelligence Inventory

Barchard Emotional Intelligence Inventory

In today's experiment, you will complete an inventory that measures your skills within each domain of emotional intelligence. There are 4 domains that comprise one's emotional intelligence: Interpersonal Communication Skills, Interpretative Abilities, Empathetic Aptitude, and Social Efficiency. Each of these domains assesses a separate aspect of emotional intelligence. Typically, the average Ohio State undergraduate performs fairly well, however, each individual usually performs well in some domains while performing not as well in other domains. Once you have completed the inventory, the computer will analyze the results.

Please indicate where on the scale you fall for each statement.

(1 = Strongly Disagree, 7 = Strongly Agree)

- I am the life of the party.
- I don't mind being the center of attention.
- I feel comfortable around people.
- I start conversations.
- I don't talk a lot.
- I think a lot before I speak or act.
- I don't like to draw attention to myself.
- I am quiet around strangers.
- I am interested in people.
- I sympathize with others' feelings.
- I take time out for others.
- I feel others' emotions.
- I make people feel at ease.
- I am not really interested in others.
- I insult people.
- I am not interested in other people's problems.
- I feel little concern for others.
- I am easily disturbed.
- I change my mood a lot.
- I express my affection physically.
- I laugh out loud if something is funny.
- I express my happiness in a childlike manner.
- I sometimes laugh out loud when reading or watching TV.
- I hug my close friends.
- I show my feelings when I'm happy.
- I shout or scream when I'm angry.
- I can't help but look upset when something bad happens.
- I show my fear.

I suspect that my facial expressions give me away when I feel sad.
 I show my sadness.
 I keep my feelings to myself, regardless of how unhappy I am.
 I find it difficult showing people that I'm angry with them.
 I keep my feelings to myself, regardless of how scared I am.
 I rarely show my anger.
 I wish I could more easily show my negative feelings.

Please indicate which answer you believe is correct.

John and Sue were walking down the street holding hands. As they passed by an ice cream shop, John wanted to go inside and get something to eat. Sue began to get angry at John. They ultimately argued about John's desire to go into the ice cream shop but Sue's desire not to. Why do you think Sue didn't want to go into the ice cream shop?

- A. She didn't want to be forced with a temptation that would derail her dieting goal and she found John inconsiderate because he didn't remember that.
- B. Sue is lactose intolerant and can't eat anything at an ice cream shop.
- C. Sue was in a rush to get to another appointment and was frustrated that John did not understand that she didn't have enough time for ice cream.

Mike and Tom are playing basketball. Mike believes that Tom fouled him on the most recent play, however Tom does not believe that he fouled Mike. On the next play, Tom clearly shoves Mike. Why do you think Tom shoved Mike?

- A. Tom was upset that Mike thought he was fouled on the previous play
- B. Tom shoved Mike on accident
- C. Tom felt that Mike was going to score and shoved him to prevent a basket

Jerry asks his friend Erin out on a date for the first time. In response, Erin laughed and walked away. Why do you think she reacted the way she did?

- A. She took Jerry's request as a joke
- B. She felt too overwhelmed to properly respond
- C. She was embarrassed because she liked Jerry

Kyle forgets to make coffee for his roommate, Jack, in the morning, despite promising that he would the night before. When Jack wakes up he makes coffee for the both of them. Why do you think Jack made coffee for Kyle as well?

- A. He is a good friend
- B. He figured that Kyle must have forgotten to make coffee for the both of them
- C. He decided that it wouldn't be much extra work to make coffee for Kyle as well

Andrew walks into class a few minutes late to class to discover that all the chairs in the classroom are full. How do you think Andrew will solve this problem?

- A. Decide to leave class and just go home
- B. Walk to the hallway and try to find a new chair
- C. Ask a fellow student to move their backpack so he can sit in a chair

Sam's husband, Matt, comes home several hours after he finished work, even though he was supposed to come home right after so that they could have dinner together. He explains that he was late because he had a flat tire, and Sam decides to forgive Matt. Why do you think Sam forgave Matt?

- A. She trusts Matt
- B. She understands that sometimes outside factors can get in the way of plans
- C. She didn't think it was a big deal that Matt missed dinner

Jim is homeless, and begs for money to get food. As Nick is walking to his job at the nearby homeless shelter, Jim asks him for money. Nick decides to give him \$20. Why do you think Nick gave Jim money?

- A. Nick enjoys helping people in need
- B. Nick has extra money and decided that Nick seemed like a nice man
- C. Nick believes that Jim will use the money to pay for food

Janet stays in relationship with Collin even though he sometimes annoys her. She knows that she would likely have a better relationship with Collin's brother, Peter, but she is not completely sure. Why do you think Janet doesn't leave Collin to pursue Peter?

- A. She is afraid of the risk of rejection, even if it is small
- B. She is worried that Peter may just seem like a better fit because she is not in a relationship with him
- C. She doesn't want to hurt Collin's feelings

Maria walked into her living room to find her brothers, Spencer and Tony, laughing and having a good time. The two had previously disliked each other. Why do you think they suddenly got along?

- A. They found a common interest
- B. They decided that brothers need to have each others backs no matter what
- C. They forgot the reason why they were mad at each other

Jenna was excited to go to a concert last night, but didn't end up going. Why do you think she didn't attend the show?

- A. She lost interest in the bands playing prior to the concert
- B. Her friends forgot to buy her a ticket and the show sold out
- C. She was mad at the friends that she planned on going to the concert with

Appendix B: Self-Affirmation Manipulation

Affirmation Condition

Ranking of Personal Characteristics and Values

Below is a list of characteristics and values, some of which may be important to you, some of which may be unimportant. Please circle the value that you find most important, and write a few paragraphs about why it is important to you.

Artistic Skills
Sense of humor
Relations with friends and family
Spontaneity/living life in the moment
Musical ability/appreciation
Physical attractiveness
Athletics
Creativity
Business/managerial skills
Academics/Social skills
Romantic values

Control Condition

Below is a list of characteristics and values, some of which may be important to you, some of which may be unimportant. Please circle the value that you find least important, and write a few paragraphs about why you think it may be important to someone else.

Artistic Skills
Sense of humor
Relations with friends and family
Spontaneity/living life in the moment
Musical ability/appreciation
Physical attractiveness
Athletics
Creativity
Business/managerial skills
Academics/Social skills
Romantic values

Appendix C: Changeability/Diagnosticity Manipulations

Low Changeability/Low Diagnosticity

Thank you for completing this measure, we would like to provide you information regarding your performance on the Barchard Emotional Intelligence Inventory. Before we give you your results, we'd like to tell you a little bit more about this inventory.

Emotional Intelligence plays a major role in many aspects of everyday life. Research in the area has consistently found that people are unable to change most features of their Emotional Intelligence. **Much research** has shown that despite learning and experience in dealing with others, people are **largely unable to alter** the patterns of interacting with others that they learned at a very early age: their abilities tend to be **fixed over time**.

Therefore, when people try to improve their Emotional Intelligence, they are often unable to succeed. This is unfortunate because a deficiency in any of the domains has many negative effects in a person's life. Those with low Emotional Intelligence have less fulfilling social relationships and less understanding of others' emotions than those who have high Emotional Intelligence.

While researchers know the value of studying Emotional Intelligence, it has been difficult to assess individuals' emotional intelligence because many outside factors impacted previous measures. Consequently, these measures were often unreliable.

However, **preliminary hypotheses** have *suggested* that the Barchard Emotional Intelligence Inventory can provide an effective measure for each domain of Emotional Intelligence. For example, a 15-year-old local high school student, Turner and his friends at **Columbus City High School** have attempted to show that the Barchard Emotional Intelligence Inventory can provide an accurate measure of ability in each domain of an individual's emotional intelligence.

Low Changeability/High Diagnosticity

Thank you for completing this measure, we would like to provide you information regarding your performance on the Barchard Emotional Intelligence Inventory. Before we give you your results, we'd like to tell you a little bit more about this inventory.

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While researchers know the value of studying Emotional Intelligence, it has been difficult to carry out research in the area because of a lack of a standard measure of Emotional Intelligence. However, **distinguished research** has demonstrated that the Barchard Emotional Intelligence Inventory can provide an effective measure for each domain of Emotional

Intelligence. For example, Dr. Turner, a tenured professor with 15 years of experience, and his colleagues at **Stanford University** have shown that the Barchard Emotional Intelligence Inventory can provide accurate information about an individual's emotional intelligence. The paper they published received the 2008 Outstanding Recent Contribution in Social Psychology award for its contribution to the literature on Emotional Intelligence.

High Changeability/Low Diagnosticity

Thank you for completing this measure, we would like to provide you information regarding your performance on the Barchard Emotional Intelligence Inventory. Before we give you your results, we'd like to tell you a little bit more about this inventory.

Emotional Intelligence plays a major role in many aspects of everyday life. Research in the area has **consistently** found that people can change most features of their Emotional Intelligence. **Much research** has shown that starting at a young age and continuing through time, **people can change** their pattern of dealing with a variety of emotional interactions through learning and experience.

Therefore, if people try, they can improve in each domain of Emotional Intelligence. Improving in this area can have many positive effects in a person's life, including allowing for more fulfilling social relationships and increased understanding of others' emotions.

While researchers know the value of studying Emotional Intelligence, it has been difficult to assess individuals' emotional intelligence because many outside factors impacted previous measures. Consequently, these measures were often unreliable.

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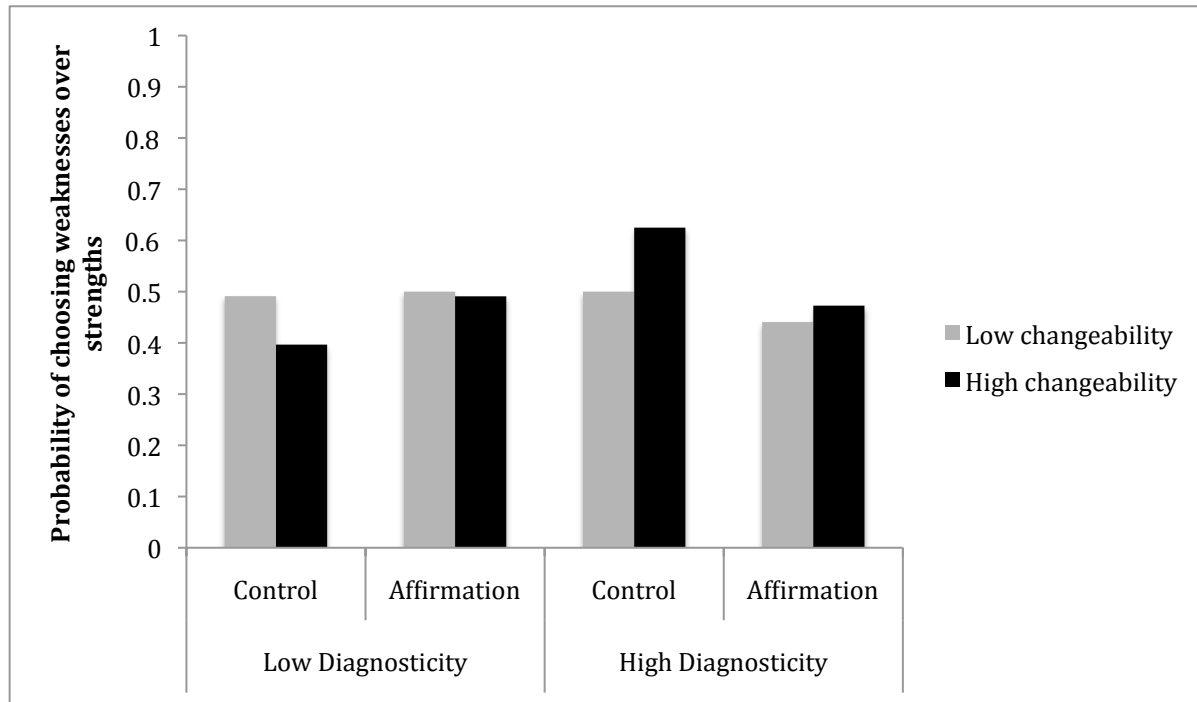


Figure 1. Probability of choosing weaknesses or strengths as a function of self-affirmation, changeability, and diagnosticity.